

METHOD AND APPARATUS FOR WIRELESS COMMUNICATIONS

ABSTRACT OF THE DISCLOSURE

A communication system (20) uses TDMA techniques to  
5 distinguish intended recipients of a communication signal  
(26) from one another, and direct sequence spread spectrum  
(DSSS) techniques to encode and distinguish diverse parallel  
substreams (70, 74) of each user's data stream. Parallel  
unspread substreams (70) are spread using cyclic variations  
10 of a common spreading code (38). In one embodiment, the  
common spreading code (38) is chosen for low aperiodic  
autocorrelation sidelobes and a substantially flat spectral  
analysis. In another embodiment the common spreading code  
(38) is chosen for low periodic autocorrelation sidelobes and  
15 a substantially flat spectral analysis. In one embodiment,  
the use of cyclic variations of the spreading code (38) along  
with a cyclic prefix (114) enables the mathematical  
communicative matrix multiplication property, thereby  
permitting equalization for multipath to occur following or  
20 in conjunction with despreading.

005250-45007950